BLANKOM®

Professional Headend Solutions

# Operating instructions

**Power supply module (9 amps)**

## HELIOS-P1
## Part N°: 5150.10

...Setting Signals

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# 1. Safety and operating instructions

When assembling, starting-up and adjusting the modules, it is necessary to consider the system specific references in the manual instruction.

The modules may only be installed and started up by authorized technical personnel.

When assembling the modules into the receiving points, the adherence of the EMC regulations is to be secured.

The assembly and wiring have to be done without voltage.

All active modules may only be operated with the power supply HELIOS or HELIOS-P1.

The main voltage and the operating voltage of the modules working by DC have to be in complience to the operating parameters described in the technical data.

With all work the defaults of the DIN EN 50083 have to be considered. Especially the safety relevant execution of the DIN EN 60728-11[1] is necessary.

The HELIOS-P1 module comes under protection classification I. It is absolutely necessary, therefore, to insert the mains plug into a fused socket.

The ventilation slots of the modules are to be kept absolutely free.

When rail mounting the DIN rail clip is mounted with 2x countersunk screws M4 enclosed in the accessory tray. The enclosed housing feet is mounted to the corresponding mark on the rear panel (see 4.2).

At the rear there is a connection option for an additional ground wire. For installation of the protective conductor 1x lens M4, serrated lock washer and lock washer, enclosed in the accessory tray, should be used.

WEEE-Reg.-Nr. DE 50389067

# 2. Device variants

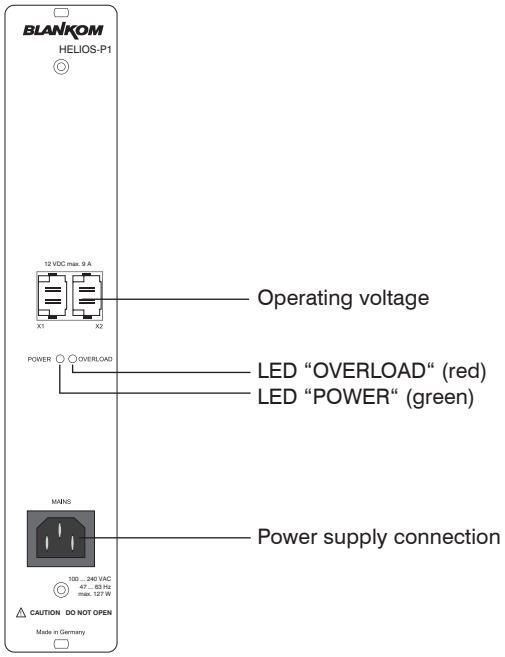
| | | |
|---|---|---|
| HELIOS-P1 | 5150.10 | Power supply (9 amps, 100 ... 240 V~ input) |

# 3. General

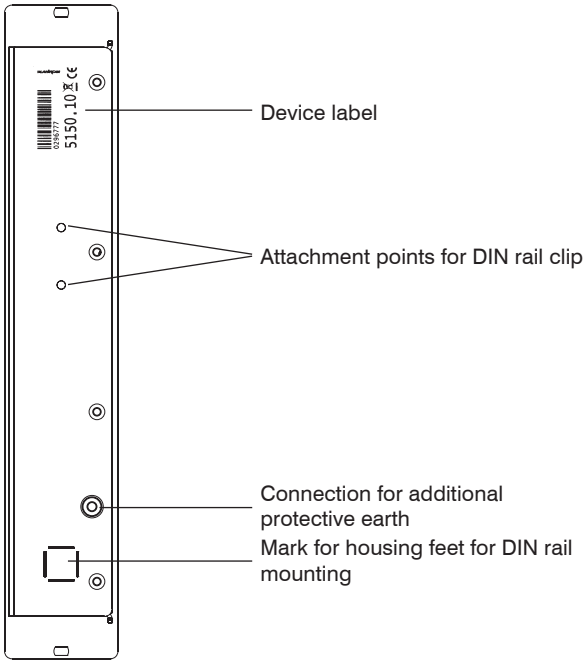
The Smart Business Line (SBL) is a modern head end system, that is distinguished by its modular and compact design. A user-friendly operating concept facilitates setup, configuration and maintenance of the system.
The HELIOS-P1 is a power supply (9 amps) of the SBL. The status of the module will be displayed by LED's.

# 4. Device view

## 4.1 Front view




## 4.2 Rear view


5150.10
Device label
Attachment points for DIN rail clip
Connection for additional protective earth
Mark for housing feet for DIN rail mounting

# 5. Functional description

The HELIOS-P1 module is the power supply of the processing units (modules). The total power consumption of all connected modules may not exceed the current limit of the HELIOS-P1. The unit has an over-voltage protection (shutdown). Increases the output voltage to 14 V by a malfunction of the power supply (eg interruption of the controlled system), then an independent monitoring circuit is activated and turns off the power. Erasing this state is only possible by separating the power supply from the mains. After a required latency of around 1 ... 2 minutes, the control circuit is reset and power supply can be connected to the mains. If the malfunction is still not resolved, then the described process is repeated again.
The HELIOS-P1 is insensitive to load-side external voltages, because power and energy are limited by a suppressor diode. The start-up takes place under all load conditions and a capacitive loads up to 12 000 uF across the overall temperature range. The unit has an inrush current, which is engaged actively and is limitting consumtion to 50 A during hot and cold start, and power interruptions.

# 6. Meaning of status LED‘s

| Designation | Colour | Status | Meaning of display |
|---|---|---|---|
| POWER | green | permanently on | Unit is ready. |
| | | off | Unit is off, operating voltage not applied |
| OVERLOAD | red | permanently on | Overload on the output (for example to many consumers) |
| | | off | Load is within limits |

# 7. Technical data

**Electrical characteristics**

| | |
|---|---|
| Main voltage | 100 ... 240 V, (+10%/ - 5%) |
| Mains frequency | 47 … 63 Hz |
| Mains connector | built in connector according DIN EN 60320-1 (IEC 60320 C14) [3] |
| Power consumption | max. 127 W |
| Output voltage | 12 V |
| Ripple noise ratio | 66 dB |
| Current drain | max. 9 A |
| Current limit | yes (10 A typical) |
| Short circuit protection | yes |
| Overvoltage protection | yes (≤ 14.5 V)* |
| Internal fuse | G5 x 20, T4A (IEC 127-2/ V) |
| Protection class | I according DIN EN 61140 (VDE 0140-1) [4] |
| Protection standard | IP 20 |
| Radio noise suppression | according DIN VDE 0871 (curve B) [5] |

**Environmental conditions**

| | |
|---|---|
| Temperature range | -10 … +55 °C |
| Relative humidity | ≤ 80 % (not condensing) |
| Mounting method | vertical |
| Mounting location | splash-proof and drip-proof |

**Miscellaneous**

| | |
|---|---|
| Dimensions (l x w x h) | 46 x 262 x 167 mm |
| Weight | ca. 1,200 g |

**Delivery contents**

1x power cord
1x DIN rail clip
1x mounting accessories
2x dummy connector
1x ground-mount kit

* To reset device interrupt the mains voltage 2 minutes!

# 8. Bibliography

[1] EN 60728-11: Cable networks for television signals, sound signals and interactive services Part 11: Safety (IEC 60728-11:2005); German version EN 60728-11:2005

[2] EN 50083-2 : Cabled distribution systems for television and sound signals. Electromagnetic compatibility for equipment; EN 50083-2:2001

[3] EN 60320-1: Appliance couplers for household and similar general purposes Part 1: General requirements (IEC 60320-1:2001 + A1:2007); German version EN 60320-1:2001 + A1:2007, Corrigendum to DIN EN 60320-1 (VDE 0625-1):2008-05

[4] DIN EN 61140; VDE 0140-1: Protection against electric shock - Common aspects for installation and equipment (IEC 61140:2001 + A1:2004, modified); German version EN 61140:2002 + A1:2006

[5] DIN VDE 0871: Radio noise suppression of high frequency units, Determination of limits for industrial, scientific and medical equipment, identical with CISPR 23 :1987

# 9. Document History

| Version | Date | Modification | Author |
|---|---|---|---|
| 1.00 | 06.06.2012 | basic document | Häußer |

Options available upon request! Subjects to changes due to technical progress.

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# CE Declaration of Conformity

**The Manufacturer**

BLANKOM Antennentechnik GmbH · Hermann-Petersilge-Str. 1 · 07422 Bad Blankenburg · Germany

**herewith declares the conformity of the product**

| | |
|---|---|
| **Product name:** | Power supply module (9 amps) |
| **Type:** | HELIOS-P1 |
| **Product number:** | 5150.01 |

**according to the following regulations**

EN 50083-2
EN 60728-11 (as far as relevant)

**and additional device-specific regulations, enclosed above, which this product is subjected to.**

**Date:** 06.06.2012

**Signature:**

Piero Kirchner
(Managing Director)